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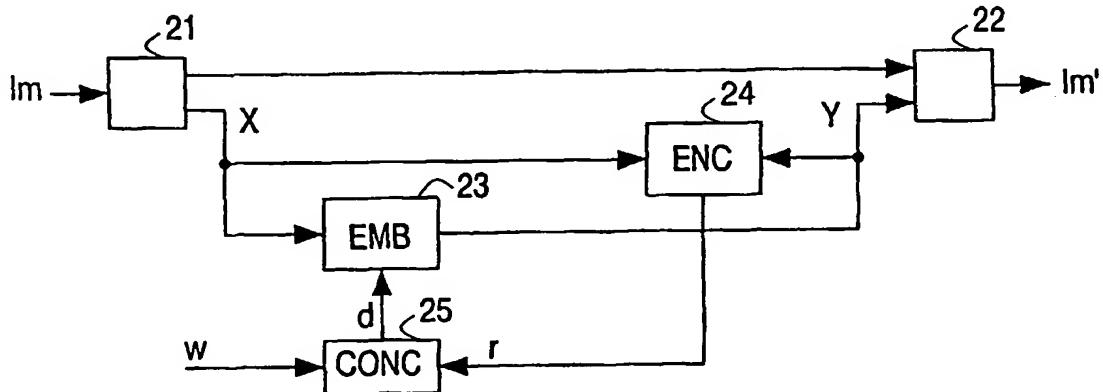
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**(54) Title: LOSSLESS DATA EMBEDDING**



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**(57) Abstract:** An undesirable side effect of watermarking or data-hiding schemes is that the host signal is distorted. This invention discloses a reversible or lossless data-hiding scheme, which allows complete and blind (without additional signaling) reconstruction of the host signal ( $X$ ). This is achieved by accommodating, in the embedded data ( $d$ ) of the watermarked signal ( $Y$ ), restoration data ( $r$ ) that identifies the host signal, given the composite signal, i.e. the restoration data identifies (24) which modifications the host signal has undergone during embedding (23). The restoration data is accommodated in a portion of the embedding capacity of a conventional embedder (23). The remainder of the capacity is used for embedding payload ( $w$ ).